REMARKS

The Examiner is thanked for the due consideration given the application. The specification has been amended to not refer to the claims.

Claims 39-55 are pending in the application. The amendment to claim 1 finds support in the specification at page 10, lines 7-13. Claims 45, 47 and 48 have been amended to improve their language. Claims 49-55 are newly presented. Support for new claim 49 can be found in the specification at page 10, lines 7-13. Support for new claims 50 and 54 can be found in the specification at page 17, lines 25-27. Support for new claim 51 can be found in the specification at page 20, lines 10-11. New claim 52 sets generally sets forth subject matter from claims 39 and 40. New claim 53 generally sets forth subject matter from claim 41. New claim 55 generally sets forth subject matter from claim 42.

No new matter is believed to be added to the application by this amendment.

Rejection Under 35 USC §112, Second Paragraph

Claims 45, 47 and 48 have been rejected under 35 USC §112, second paragraph as being indefinite. This rejection is respectfully traversed.

The Official Action asserts that claim 45 lacks full antecedent basis. The comments in the Official Action have been considered, and claim 45 has been appropriately amended.

The Official Action asserts that claims 47 and 48 invoke 35 USC §112, sixth paragraph in a fashion that is not clear in light of the specification. However, claims 47 and 48 have been amended to not invoke 35 USC §112, sixth paragraph.

The claims are thus clear, definite and have full antecedent basis.

This rejection is believed to be overcome, and withdrawal thereof is respectfully requested.

Rejection Under 35 USC §103(a)

Claims 39-48 have been rejected under 35 USC §103(a) as being unpatentable over JONES et al. (U.S. Publication 2002/0150759) in view of WOHLSTADTLER et al. (U.S. Publication 2001/0021534). This rejection is respectfully traversed.

The present invention pertains to a biosensor device including a patterned substrate that is illustrated, by way of example, in Figure 1 of the application, which is reproduced below.

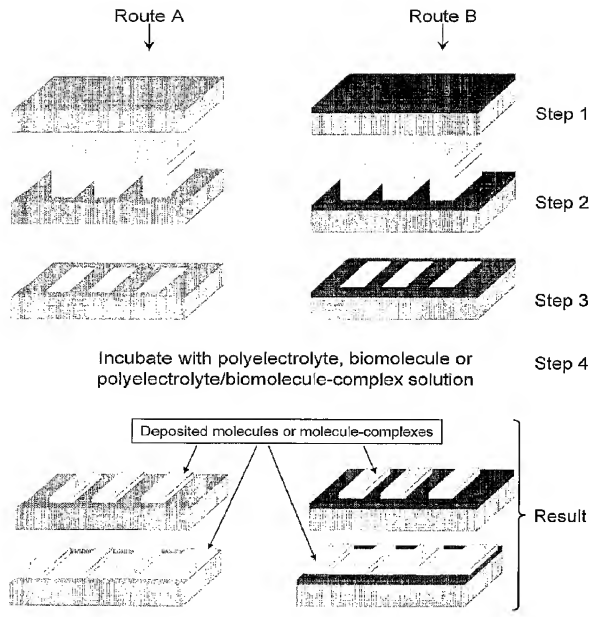

Fig. 1

The present invention describes for the first time ***non-covalent*** immobilization of a conjugated polyelectrolyte (CPE), the reporter molecule, to a substrate containing a hydrophobic/hydrophilic patter. The CPE interacts by ***non-covalent*** means with a biomolecule, the receptor, which is either co-adsorbed or adsorbed separately to the patterned substrate with the CPE. The binding of the biomolecule results in a detectable change of property of the reporter. The binding of a target analyte to the Receptor results in a detectable change of property of the reporter.

Amended claim 39 of the present invention recites: "said reporter molecule being ***non-covalently*** bound to selected ones of said hydrophilic and hydrophobic areas on said patterned substrate."

JONES et al. pertain to fluorescent polymer superquenching-based bioassays. JONES et al. teach a method wherein a receptor is covalently linked to a CPE (see paragraph [0016] and claim 9). The present invention, in contrast, teaches a non-covalent interaction between the receptor and the CPE and is thus completely different.

A required central item in JONES et al. is an element that alters the property of the CPE (Abstract, paragraph [0042]). This property-altering element has to be sufficiently close to the CPE. The biosensor of JONES et al. is achieved by constructing a quencher-tethered-ligand, (QTL), where the ligand binds to the receptor and the quencher quenches the fluorescence of the CPE. By adding the target analyte, as described in JONES et al., the QTL is released from the receptor and the CPE starts to fluoresce (paragraph [0002]).

This is also completely different from the present invention, where the detection is achieved by a change of property of the CPE when the target analyte binds to the receptor and not the release of a fluorescence quencher, the property-altering element.

The Official Action acknowledges that JONES et al. do not teach that the support is a patterned substrate having hydrophilic and hydrophobic areas. The Official Action refers to WOHLSTADTER et al. to address this deficiency.

Regarding WOHLSTADTER et al., the following observations are made.

WOHLSTADTER et al. describe a method to for detecting an analyte using electroluminescence on an electrode (Abstract, paragraph [0023]). A method for confining an analyte in a hydrophobic/hydrophilic pattern is also described in WOHLSTADTER et al. (paragraph [0039]). The present invention, in contrast, does not use an electrode and the use of the hydrophobic/hydrophilic pattern is also completely different.

However, JONES et al. teach a number different preconditions necessary to carry out the method described therein that makes it completely different when compared to the present invention. First of all JONES et al. require the QTL unit for the detection mechanism. This is a feature that is absolutely not required by the present invention, which pertains to a method where a property of the CPE is directly altered by the biomolecule or the receptor/analyte interaction.

However, it is the fact that the receptor/biomolecule has to be ***covalently*** linked to the CPE in JONES et al. that is an important issue as it would not even be possible to perform the present invention with this limitation.

JONES et al. in view of WOHLSTADTER et al. will not lead to the present invention. The reason for this is the requirement of ***covalent*** coupling between the CPE and the receptor, a ***covalent*** link between the receptor and the substrate

as well as the QTL unit. Even if the hydrophobic pattern in WOHLSTADTER et al. were used, a person skilled in the art would not be able to overcome the limitations mentioned above at all by combining the teachings of JONES et al. and WOHLSTADTER et al.

One of ordinary skill and creativity would thus fail to produce a claimed embodiment of the present invention from a knowledge of JONES et al. and WOHLSTADTER et al. A *prima facie* case of unpatentability has thus not been made.

This rejection is believed to be overcome, and withdrawal thereof is respectfully requested.

Double Patenting Rejections

Claims 39-42 and 46-48 have been provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 17-32 of copending application no. 11/579,741 (U.S. Publication 2008/0038751) in view of WOHLSTADTER et al.

Claims 39, 40, 44 and 47-48 have been provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1 and 13-15 of copending application no. 10/514,191 (U.S. Publication 2006/0175193) in view of WOHLSTADTER et al.

These rejections are respectfully traversed.

It is believed that the claims of the present invention have been amended in a fashion (setting forth non-covalent bonding) that differentiates over the above-referenced

applications and WOHLSTADTER et al. to obviate the double patenting rejections.

Withdrawal of these double patenting rejections is thus respectfully requested.

Alternately, the Examiner is respectfully requested to forestall these provisional double patenting rejections in order to allow the issue to ripen by having one of the copending applications mature into a patent.

Conclusion

The Examiner is thanked for considering the Information Disclosure Statement filed November 22, 2006 and for making the references therein of record in the application.

Prior art of record but not utilized believed to be non-pertinent to the instant claims.

The rejections are believed to have been overcome, obviated or rendered moot. No issues remain. This issuance of a Notice of Allowability is accordingly respectfully requested.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future submissions, to charge any deficiency or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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